| Corrected<br>**Notice of Allowability** | **Application No.**<br>10/777,822 | **Applicant(s)**<br>MIYANO ET AL. | |
|---|---|---|---|
| | **Examiner**<br>Faye Boosalis | **Art Unit**<br>2884 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *submission of 1 June 2006*.

2. ☒ The allowed claim(s) is/are *1-11,13, 15, 17-22*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

## EXAMINER'S COMMENT AND STATEMENT OF REASONS FOR ALLOWANCE

***Comment on Submissions***

1. This Office Action is responsive to submissions of 1 June 2006 and previous Notice of Allowance mailed on 23 August 2006 is rescinded because added new claims, submitted on 1 June 2006, were not examined.

***Allowable Subject Matter***

2. Claims 1-11, 13, 15, 17-22 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera and the display are arranged to be within an outline of the user's head in a front view when the device is put on the user (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and miniature infrared camera, mounted onto a helmet for individuals, are known to withstand operating conditions of rain, snow and fog, a well as incidents of thermal, shock, vibrations, and EMI (see for example Bodkin et al – US 6,023,061 A -- col. 6, lines 60-65 and col. 13,

lines 56-59), the prior art does not fairly disclose a fog-proof inner surface of the shield and surface of the display of an abnormality detection support device.

Regarding claim 2, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

The examiner notes, that while it is known in the art an abnormality detection system device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera is arranged on a line extending through the user's left and right eyes and near one of the eyes (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and miniature infrared camera, mounted onto a helmet for individuals, are known to withstand operating conditions of rain, snow and fog, a well as incidents of thermal, shock, vibrations, and EMI (see for example Bodkin et al – US 6,023,061 A -- col. 6, lines 60-65 and col. 13, lines 56-59), the prior art does not fairly disclose a fog-proof inner surface of the shield and surface of the display of an abnormality detection support device.

Regarding claim 3, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera is arranged so that a center of gravity is put over a virtual center line of any one of the face protector and the helmet (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and miniature infrared camera, mounted onto a helmet for individuals, are known to withstand operating conditions of rain, snow and fog, a well as incidents of thermal, shock, vibrations, and EMI (see for example Bodkin et al – US 6,023,061 A -- col. 6, lines 60-65 and col. 13, lines 56-59), the prior art does not fairly disclose a fog-proof inner surface of the shield and surface of the display of an abnormality detection support device.

Regarding claim 4, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

The examiner notes, that while it is known in the art an abnormality detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of the user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45), a

detection support device comprising an infrared camera (16) and a display (20); wherein the infrared camera is arranged in a position near a jaw portion of the user (see for example Gordon et al – US *6,606,114 B1*-- Fig. 1 and col. 3, lines 60-67 and col. 4, lines 1-13) and a miniature infrared camera, mounted onto a helmet for individuals, are known to withstand operating conditions of rain, snow and fog, a well as incidents of thermal, shock, vibrations, and EMI (see for example Bodkin et al – US 6,023,061 A -- col. 6, lines 60-65 and col. 13, lines 56-59), the prior art does not fairly disclose a fog-proof inner surface of the shield and surface of the display of an abnormality detection support device.

Regarding claim 5, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the inner surface of the shield and a surface of the display are fog-proofed.

The examiner notes, that while it is known in the art an abnormality detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of the user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eyes by optical or electrical coordinate conversion (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45), a detection support device comprising; an infrared camera (16) arranged in a position separate from the display (20) in a front view and the image taken by the infrared camera is reproduced on

the display in a position in front of the user's eye by optical or electrical coordinate conversion (see for example Gordon et al – US *6,606,114 B1*-- Fig. 1 and col. 3, lines 60-67 and col. 4, lines 1-13) a and a miniature infrared camera, mounted onto a helmet for individuals, are known to withstand operating conditions of rain, snow and fog, a well as incidents of thermal, shock, vibrations, and EMI (see for example Bodkin et al – US 6,023,061 A -- col. 6, lines 60-65 and col. 13, lines 56-59), the prior art does not fairly disclose a fog-proof inner surface of the shield and surface of the display of an abnormality detection support device.

Regarding claims 15 and 18, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera and the display are arranged to be within an outline of the user's head in a front view when the device is put on the user (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and a detection support device wherein one of the face protector (12) and the helmet (10) is equipped with a radio data transmission device (34) for radio-transmitting an image signal of the infrared camera to a radio receiver provided in a remote location (see for example Zhang et al

(US 6,476,391 B1-- Fig. 1 and col. 3, lines 31-36 and lines 44-51), the prior art does not fairly disclose an arrangement of an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

Regarding claim 19, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera is arranged so that a center of gravity is put over a virtual center line of any one of the face protector and the helmet (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and a detection support device wherein one of the face protector (12) and the helmet (10) is equipped with a radio data transmission device (34) for radio-transmitting an image signal of the infrared camera to a radio receiver provided in a remote location (see for example Zhang et al (US 6,476,391 B1-- Fig. 1 and col. 3, lines 31-36 and lines 44-51), the prior art does not fairly disclose an arrangement of an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

Regarding claim 20, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera (16) is arranged in position near a jaw portion of the user (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and a detection support device wherein one of the face protector (12) and the helmet (10) is equipped with a radio data transmission device (34) for radio-transmitting an image signal of the infrared camera to a radio receiver provided in a remote location (see for example Zhang et al (US 6,476,391 B1-- Fig. 1 and col. 3, lines 31-36 and lines 44-51), the prior art does not fairly disclose an arrangement of an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

Regarding claim 21, the prior art does not disclose or fairly suggest an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

The examiner notes, that while it is known in the art an abnormal detection support device comprising: an infrared camera (10); a display (24) which, at least when

the infrared camera is in use, comes to be positioned in front of a user's eyes and reproduces an image taken by the infrared camera thereon; and one of a face protector (12) and a helmet (34), on which the infrared camera and the display are provided; wherein the infrared camera (16) is arranged in a position separate from the display (20) in a front view and the image taken by the infrared camera is reproduced on the display in a position in front of the user's eyes by optical or electronic coordinate conversion (see for example Coombs et al -- US 5,949,582 A -- Figs. 1-4 and col. 4, lines 15-45) and a detection support device wherein one of the face protector (12) and the helmet (10) is equipped with a radio data transmission device (34) for radio-transmitting an image signal of the infrared camera to a radio receiver provided in a remote location (see for example Zhang et al (US 6,476,391 B1-- Fig. 1 and col. 3, lines 31-36 and lines 44-51), the prior art does not fairly disclose an arrangement of an abnormality detection support device wherein the infrared camera, the display and the radio transmission device are installed inside one of the face protector and the helmet.

The remaining 6-11,13, 17 and 22 are allowable based on their dependency.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faye Boosalis whose telephone number is 571-272-2447. The examiner can normally be reached on Monday thru Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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